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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FUBARA, BLESSING M	
ART UNIT	PAPER NUMBER
1613	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/737,144	YUM ET AL.	
	Examiner	Art Unit	
	BLESSING FUBARA	1613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,80-86 and 88-126* is/are pending in the application.

4a) Of the above claim(s) *93,94,109,110,123 and 124* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,80-86,88-92,95-108,111-122,125 and 126* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/16/10, 12/23/10, 12/27,10, 1/31/11, 3/24/2011, 3/25/2011, 3/31/2011.

DETAILED ACTION

1. Supplemental amendment has been filed 2/11/2011; IDS has been filed 12/16/2010, 12/23/2010, 12/27/2010 and 1/31/2011, 3/24/2011, 3/25/2011 and 3/31/2011; request for extension of time and request for continued examination under 37 CFR 1.114 has been filed 12/16/2010. Claims 1, 80-84 were amended on 12/16/2010. New claims 85-126 were added on 12/16/2010. Claim 1 and new claims 97 and 113 were further amended and new claim 87 was canceled by the supplemental amendment of 2/11/2011.

2. The amendment to the specification at page 30 provides antecedent support for original claim 8.

3. Claims 1, 80-86 and 88-126 are pending.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/16/2010 has been entered.

Response to Arguments

Previous rejections that are not reiterated herein are withdrawn.

Claim Rejections - 35 USC § 112

5. Amending claim 80 to recite from about 1 to about 8.6 weight percent network former overcomes the rejection of claim 80 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 80-86, 88-92, 95-108, 111, 112-122, 125 and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tipton et al. (US 5,747,058).

9. Tipton discloses compositions comprising high-viscosity liquid carrier material (HVLCM), substance to be delivered and a viscosity lowering water soluble or miscible solvent (column 2, lines 41-67). In a preferred embodiment, HVLCM is sucrose acetate isobutyrate (SAIB) (col. 5, lines 64-67). Tipton does not limit the substance to be delivered (see col. 6, line

50 to col. 8, line 25) and one of the drugs listed is codeine, an opioid (col. 7, line 62). Tipton's composition optionally comprises additives that modify the properties of the composition as desired, for example, the less water soluble or lipophilic additive decreases the rate of release of the substrate (col. 3, lines 31, 32, 37-44) and Tipton states that "a variety of additives can optionally be added to the HVLCM to modify the properties of the material desired" (col. 8, lines 53-55). The additives are biodegradable polymer, non-biodegradable polymers, carbohydrate derivatives, BSA and surfactants, organic compounds such as sugars, organic salts such as sodium citrate (col. 3, lines 32-38), and Tipton further lists these additives (col. 9), cellulose acetate butyrate (CAB) and cellulose acetate propionate (CAP) (col. 9, lines 38-41) are two of the preferred non-biodegradable polymers; CAB and CAP being network formers (see instant claim 1 and paragraph [0039] of the published application). The composition can further contain oils and fats such as natural and synthetic oils (col. 9, lines 43-60). In an alternate embodiment, the HVLCM/substrate composition comprises a second carrier for ease of storage, handling, delivery, or to modify one or more properties of the composition; the second carrier is liquid, solid, gel and systems for transdermal delivery (col. 3, lines 47-52). CAB or CAP is used with SAIB according to Figs. 4, 11, 15 and Examples 4, 12, 14, 18 and 19; see also claims 1-6, 8, 9, 50-64 for various additives; while the Tipton composition is not limited by the drugs/substance to be delivered, claims 25-49 are directed to composition containing various drugs, additive, SAIB, solvent and drugs/substance to be delivered.

10. The solvent in Tipton are selected from ethanol, ethyl lactate, propylene carbonate, glycofurol, N-methylpyrrolidone, 2-pyrrolidone, propylene glycol, acetone, methyl acetate, ethyl acetate, methyl ethyl ketone, benzyl alcohol, triacetin, dimethylformamide, dimethylsulfoxide,

tetrahydrofuran, caprolactam, decylmethylsulfoxide, oleic acid, and 1-dodecylazacycloheptan-2-one (col. 10, lines 12-22) and ethanol, dimethylsulfoxide, ethyl lactate, ethyl acetate, benzyl alcohol, triacetin, N-methylpyrrolidone, propylene carbonate, and glycofurol are preferred when SAIB is the HVLCM (col. 10, lines 23-26). The composition of Tipton can be placed in gelatin capsule (claims 88, 89) and capsules are oral dosage forms. Tipton discloses oral, rectal, vaginal, nasal and other forms of administration to the human animal (col. 10, lines 39-46).

11. Additives are present in amounts of from about 0.1% to about 20% or from about 1, 2, 5% to about 10% (column 8, lines 60-65). Tipton discloses that fats and oils present in the composition increases the hydrophobicity of SAIB and slows the degradation and water uptake (col. 9, lines 58-60) and the oils and fats include glycerides of oleic, palmitic, stearic and linoleic (col. 9, lines 45-47).

12. At least Examples 12, 14, 18 and 19 disclose compositions containing drug, SAIB, CAB and solvent and while Tipton discloses that the composition further contain oils and fats that increase hydrophobicity of SAIB and slows degradation and water uptake. But, these examples failed to contain oils or rheology modifier.

13. Therefore, taking the teaching of Tipton, one having ordinary skill in the art at the time the invention was made would have been motivated to add oils or fats to the compositions comprising SAIB/CAB/SOLVENT/Drug in order to increase the hydrophobicity of SAIB and also to slow the degradation and water uptake. It would have been obvious to use glycerides of oleic or palmitic acid, isopropyl myristate, octyl palmitate, ethyl oleate or octyl palmitate, since, these oils are disclosed as preferred for SAIB (Tipton cautions that oils such as "glycerol, corn oil … super refined peanut oil" are not preferred for use with SAIB (column 10, lines 27-30).

14. Therefore, the limitations of generic claims 1, 97 and 113 are met when the composition of Tipton comprises SAIB, CAB, solvent, drug and oils/Fats such as glycerides of oleic or palmitic acid, isopropyl myristate, octyl palmitate, ethyl oleate or octyl palmitate and the oils/fats are rheology modifiers.

15. When isopropyl myristate (IPM) is the preferred fatty acid ester and used with SAIB, the IPM meets the rheology modifier of claims 1, 85, 88, 97, 101, 102, 113 and 117. When the additive is a CAB the requirement for generic and specific network former of claims 1, 81, 82, 88, 97, 98, , 99, 100, 113, 114, 115 and 116 are met; the solvent is used from about 5 to about 55%, with from about 10 to about 50% or from about 10 to about 30% preferred (see column 10, lines 31-37) and the narrower range of from about 10 to about 30 percent anticipates the broader range of 20-50% recited in claims 83, 88; Ethanol, DMSO, ethyl lactate (EL), ethyl acetate (EtOac), benzyl alcohol and triacetin are some of the preferred solvents for use with SAIB (column 10, lines 23-30) and when the solvent is EL or triacetin or DMSO and N-methylpyrrolidone, then claim 84 is met.

16. The solvent ethanol, ethyl lactate, propylene carbonate, glycofurol, N-methylpyrrolidone, 2-pyrrolidone, propylene glycol, acetone, methyl acetate, ethyl acetate, methyl ethyl ketone, benzyl alcohol, **triacetin**, dimethylformamide, dimethylsulfoxide, tetrahydrofuran, caprolactam, decylmethylsulfoxide, oleic acid, and 1-dodecylazacycloheptan-2-one (col. 10, lines 12-22) and ethanol, dimethylsulfoxide, ethyl lactate, ethyl acetate, benzyl alcohol, triacetin, N-methylpyrrolidone, propylene carbonate, and glycofurol are preferred when SAIB is the HVLCM (col. 10, lines 23-26) meet claims 84, 103; the gelatin capsule meets claims 95, 96, 111, 112, 125 and 126; when triacetin is the solvent, claims 86 and 118 are met; the content of

butyryl, acetyl and hydroxyl content is unique to each type of CAB used so that the recitation in claims 82, 100 and 116 are inherent to the CAB and these claims are thus met; codeine, which is an opioid meets claims 90, 91, 106, 107, 120 and 121; for claims 92, 108 and 122 reciting oxycodone, one opioid drug can be used in place of the other and expect that the oxycodone suffers the same fate as the codeine. CAB at 5% meets the requirement for network former in the amount recited in claim 80.

Response to Arguments

17. Applicant's arguments filed 12/16/2010 have been fully considered but they are not persuasive.

18. Applicant argues:

A) Tipton's broad disclosure does not provide any guidance to select "the claimed combination" and that Tipton does not does not explicitly teach or suggest formulations that contain a drug, SAIB (HVLCM), network former, rheology modifier and solvent as claimed because, Tipton teaches general formulations that are injectable, topical, inhalable (aerosol), oral, rectal, nasal, surgical adhesions, scaffolding, void filling, tissue adhesive; that are used scaffolding, tissue regeneration, insecticide delivery; Tipton's formulations can comprise of HVLCM (such as SAIB) alone, SVLCM and drug, HVLCM and drug and optional additives.

Response: The invention in generic claims 1, 97 and 113 are compositions. The inventions are not directed to method of use of the composition and also not directed to process of making the composition. The examiner agrees with the applicant that Tipton discloses many embodiments. Tipton's composition always contains HVLCM and substance to be delivered

and that substance to be delivered is a biologically active substance (col. 2, lines 41-46; col. 6, lines 48 and 49) and the biologically active substance is a drug, peptide, protein, and others (col. 6, lines 50-65); these compositions contain solvent in another embodiment (col. 2, lines 47-67) ands the compositions optionally contains additives, second carrier material (col. 3, lines 31-67) and optionally contains further class of additives (col. 9, lines 43-48). Therefore, Tipton specifically suggests the claimed composition. At least, there is the composition in Examples 12, 14, 18 and 19 and what is missing in the examples is the rheology modifier which is the oils and fats that are optionally present --- that increase the hydrophobicity of the SAIB (HVLCM) and slows degradation and water uptake. It is thus prima facie obvious to include fats and oils in the composition with a motivation that their inclusion would increase hydrophobicity of SAIB and slow degradation and water uptake.

Therefore, the examiner disagrees because Tipton's broad disclosure provides guidance to select "the claimed combination."

B) "Modification of Tipton's oral formulation would render it unsatisfactory for its intended purpose" because the topical oral mouthwash of Tipton is an emulsion that contains water as an essential component and one that does not contain CAB, such that modification to add CAB would render the mouth was unsuitable for its intended purpose since the mouthwash would not be an emulsion when network former is added to the mouthwash formulation.

Response: "Oral" in oral formulation is in the preamble designating the intended use of the formulation. The claimed composition does not exclude water. The specification at page 10, lines 4-11 does not say what amount of network former would provide the effect of micro-network formation. Also, the instant specification says that network former precipitates at the

interface between the dosage form and aqueous environment of the GI, there is nothing in the specification that says that the mouthwash cannot be "squished" when used as a mouthwash or that the mouthwash cannot be used as a mouthwash when network former is added. Furthermore, applicant at least admits that the Tipton discloses oral, rectal, vaginal, nasal and other forms of administration to the human animal (col. 10, lines 39-46).

Notwithstanding, the mouthwash formulation is not the only formulation in Tipton that can be orally administered or would be capable of being orally administered. The formulation of at least example 12 is capable of oral administration. Also, Tipton discloses oral, rectal, vaginal, nasal and other forms of administration to the human animal (col. 10, lines 39-46) and this is admitted by applicant.

Therefore, Tipton specifically suggests the claimed composition.

C) "Tipton teaches away from including a lipophilic substance such as rheology modifier to Tipton's CAB-containing compositions" because Tipton shows that the addition of CAB or CAP reduces the rate of release of active from SAIB containing compositions and also teaches that lipophilic substance would further decrease the rate of release.

Response: The examiner disagrees that Tipton teaches away from adding lipophilic rheology modifier to composition containing SAIB-network former because decreased rate of release of active agent from a composition does not in any way contradict or violate the claimed composition comprising a drug, SAIB (HVLCM), network former selected from the group consisting of cellulose acetate, cellulose acetate butyrate, … and an ion exchange resin, rheology modifier selected from isopropyl myristate (IPM), ethyl oleate, ... and caprylic/capric triglyceride, and a solvent. Tipton specifically provides the motivation to add oils and fats to

SAIB containing compositions because Tipton suggests that addition of lipophilic oils and fats to the composition increases the hydrophobicity of SAIB and slows the degradation and uptake of water. A decrease in the rate of release of active from the composition would in a sense prolong the release and prevent a burst release as evidenced by the release profile of the composition containing SAIB alone seen in Fig. 1 represented by the downward pointing open triangle and in Fig. 11 represented by the open square (see page 16 of applicant's remarks of 12/16/2010); Fig. 4 shows the effect of CAB at concentrations of 2, 10 and 15%.

Therefore, applicant's argument that decrease in the rate of release of active agent from the SAIB/CAB composition is not sufficient and not persuasive to remove Tipton as prior art. The claims are not directed to release rate of active agents having CAB at concentrations of 5, 10 and 15%.

D) "Applicants'' claimed formulation produces unexpected results not disclosed or contemplated by Tipton" because the claimed composition provides deter drug abuse in vitro while providing controlled release of drug after administration.

Response: The examiner disagrees that the composition of Tipton cannot afford resistance to drug extraction in vitro or cannot deter drug abuse in vitro because a) the examiner's position is that decrease in the rate of release appears to promote deterrence in extraction of the active in vitro and specifically Fig. 1 is an in vitro experiment (see Example 3 at col. 14, lines 47-51) so also is Fig. 4 which shows that the higher the %amount of CAB, the less instantly available is the active agent and the release is prolonged, b) applicant has not factually shown that the composition of Tipton cannot deter drug abuse, c) the expectation from the in vitro data would suggest that the release will not be instantaneous but prolonged or controlled.

Therefore, Tipton's disclosure suggests the claimed composition, provides motivation for the modification of the exemplified composition containing SAIB, CAB, solvent and drug by adding oils and/or fats since oils/fats increase hydrophobicity of SAIB and slows degradation and water uptake, Tipton does not away from the claimed composition and there is no factual showing that the composition of Tipton does not deter drug abuse.

Election/Restrictions

19. RCE was filed 12/16/2010. New claims 85-126 were added and in that addition applicant introduced stimulant, dextromethorphan and methylphenidate. Since RCE does not guarantee applicant to expand the scope of what has been examined, and since applicant elected oxycodone for prosecution in the response to the election requirement filed 6/25/2007, claims 93, 94, 109, 110, 123, 124 are withdrawn from consideration. Also, in the response filed 6/25/2007, applicant elected ethyl lactate and not triacetin. However, because triacetin is taught by Tipton, claims 86, 104, 118 reciting the non elected triacetin are examined.

20. No claim is allowed.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BLESSING FUBARA whose telephone number is (571)272-0594. The examiner can normally be reached on Monday to Thursday from 7 a.m. to 5:30 p.m.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Y. Kwon can be reached on (571) 272-0581. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Blessing M. Fubara/
Primary Examiner, Art Unit 1618